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ABSTRACT

This paper reports on a project started in 1993 to provide preservice teachers with opportunities to engage in an extended conversation with a middle school student using a computer and a modem. The Apple Computer Co. donated the initial equipment to the College of Education at Wayne State University and to the Detroit Open School, Detroit Public Schools. Each conversation was to continue for an hour and to relate to any topic that was interesting to the students and the preservice teacher. Initially keyboarding was the method of communication, but later video cards allowed communication by whiteboard and audio connection. Problems that arose are discussed briefly. Future plans include increasing the quality of the hardware and software, and changing the focus of the tutoring sessions to coordinate with the classroom teacher's regular instruction and with the Michigan Curriculum Framework. The appendix contains excerpts from four conversations: an introductory conversation; one that built on previous contacts; a conversation in which the teacher and student were speaking to each other using an audio connection, and sharing a map of the United States using a whiteboard; and another using the audio connection and whiteboard to share a map of Europe. (DLS)

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ON-LINE TUTORING OF MIDDLE SCHOOL STUDENTS

BY PRESERVICE TEACHERS

by

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Paper presented at Demonstrations of Educational Technology, 1998 Fall Conference, Michigan Association of Colleges for Teacher Education, University of Michigan, Ann Arbor, Michigan, October 9, 1998.

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Discourse in the classrooms of typical elementary and secondary schools has been dominated by the teacher's voice. Studies completed over 30 years ago by Bellack, et. al (1966), Flanders (1965), Goodlad (1984) and others have established the fact that 65% - 85% of classroom discourse was "teacher talk." In their visits and observations of hundreds of classrooms, they found that teachers were lecturing, giving directions, and asking questions that usually required brief replies from students who were expected to recall information from previous lectures or textbook exercises.

The intent of this project was to provide preservice teachers with opportunities to engage in an extended conversation with a middle school student using a computer and modem. Each conversation was to continue for an hour and to relate to any topic which was interesting to the student and to the preservice teacher.

The project began in 1993 when Apple Computer Co. made an award of 20 Macintosh SE microcomputers to the College of Education at Wayne State and to the Detroit Open School, Detroit Public Schools. The conversations were typed at the keyboard, saved to a file and printed for the preservice teacher to use for a summary project report.

This effort has continued with changes in the process occurring as we learned from reading the transcripts of the conversations and comments made in the preservice teachers' reports. Furthermore, we became aware of the work of Goldenberg(1991) at the University of California/Berkeley and his colleagues who were guiding teachers to use instructional conversations, in which teachers relied heavily upon using the students' vocabulary to increase their understanding of a topic beyond the "zone of proximal development" defined in the writing of Vygotsky(1962).

As you read these excepts from the conversations, one can get an impression of the superficial conversation versus the thoughtful, probing consideration of a topic.

Conversation #1 in the Appendix was typical of the early conversations in which much of the time was spent in getting acquainted with one another. Unfortunately, the class schedule of preservice teachers and students made it impossible to connect the same participants each week. Therefore, the preservice teacher could not build upon the rapport which had been established in conversations during the previous week.

Conversation #2 in the Appendix illustrates a good relationship between preservice teacher and student which developed when the conversation could build upon previous contacts.

In this situation, Steve happened to be an English major and Megan enjoyed reading English literature.

The process often revealed some of the personal characteristics of the preservice teacher when engaged in a teaching situation. For example, when keyboarding skills of a student were slow and labored, some preservice teachers became annoyed and impatient. Others were patient and supportive of the student attempting to communicate their ideas using the computer keyboard.

Some of the conversations revealed circumstances in the family life of a student, which were surprising to the preservice teacher. These insights could come suddenly in the conversation and reveal startling aspects of the student's daily life. For example, one student was discussing her love for pizza and music and in the next breath mentioned the excessive amount of gunfire that was occurring last night in her neighborhood, which prompted her mother to have all the children lie down on the floor to minimize the risk of injury.

Another student reported that her cousin had broken into her home, taken some objects, and walked around on their furniture. As she eloquently phrased it, "He took it upon himself to march his elephant-eared butt across my bed!"

In 1996 we obtained video cards for our Macintosh IIsi from Sharevision Technology, which enabled us to communicate with students using a whiteboard and audio connection. Because of the limited keyboarding skills of some of the students, previous hour-long conversations permitted only 70 to 80 conversational exchanges between preservice teacher and student. However, with the introduction of audio communication, the number increased to a range of 300 to 350 conversational exchanges.

The whiteboard enabled preservice teachers to introduce graphic images of maps or geometric figures or sketches of original drawings by teacher or student. These visual aids were seen on the computer screens of preservice teacher and student at the same time, although they were several miles apart. Each participant could mark or write on the white board and that action was seen immediately by the other participant.

The whiteboard is valuable in that it provides a common visual medium which both participants share. It offers a form of security for the preservice teachers by providing a focal point their questions. However, it seems to bring out that didactic mode of teaching with lots of objects to point to and name. Perhaps more experience with the whiteboard as a vehicle to support the conversation will lead to greater depth in the quality of the conversational exchange between the preservice teacher and the student.

Conversation #3 in the Appendix illustrates the conversation between a preservice teacher and a student who were sharing a map of the United States. The flow of the conversation is rapid and many ideas were presented and discussed in this hour-long conversation.

Sometimes it was difficult for the preservice teacher to keep up with a student, who is actively participating in the on-line conversation. In **Conversation #4** in the Appendix, the preservice teacher was intending to introduce the student to some of the major countries and cities in Europe. To his surprise, the student had traveled to Europe recently and the preservice teacher had his hands full keeping up with the student's ideas and comments.

There were problems. Sometimes a student would step on the power cord and break the telecommunication connection. This meant that is was necessary to call the teacher at the school, interrupt her work with students, and re-establish the telecommunication connection.

On other occasions, the preservice teacher might bring a graphic image which was very large, and it would require 10 to 15 minutes to transfer and establish the image onto the screen of the student's computer.

For the 1998-99 school year, the Detroit Public Schools and the College of Education, Wayne State University have joined together to seek and receive a grant under the provisions of the Technology Literacy Challenge Fund. One part of that award will enable us to increase the quality of hardware and software to support this on-line tutoring of middle school students in four schools.

In this aspect of the grant, we will be using iMac's with Netscape Conference and CU-SeeMe. Preservice teachers will be tutoring students who have the ability to learn but who have been having difficulty living up to their ability, as indicated by their classroom teachers. The same students and preservice teachers will be participating in the tutoring sessions for 10 weeks and then another group of ten students in each school will be selected by the classroom teacher to receive tutoring. The focus of the tutoring sessions will be coordinated with the classroom teacher's regular classroom instruction and consistent with the Michigan Curriculum Framework defined by the Michigan State Board of Education.

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APPENDIX

Conversation #1 (Robin=Preservice Teacher; Melodi and April= Age 14)

CONNECT 1200

Good afternoon! Is anyone there today?

My name is Robin. I am from Wayne State.

Hi, this is Melodi and April.

How old are both of you and what grades are you in?

Hi, I'm April. I'm 14 years old and I'm in the 8th grade. I am Melodi. I am also 14 and in the 8th grade. And you???

I am 28 and am going back to college after first graduating from Michigan State in 1990.

I have a sister that goes to U of M.. Rah! Rah! Rah! That was Melodi talking. (April) I don't have any sisters or brothers.

I have one sister. She also goes to MICHIGAN STATE UNIVERSITY.!!!! GO GREEN!!!

This is the second year of college for my sister at Michigan. GO MAZE AND BLUE RAH RAH RAH

You must be very proud of your sister, Melodi. U of M is a very challenging school. She must be very smart!!!

She tries to be. What college are you attending???

I am at Wayne State studying elementary education. Where are you guys going to go to High School?

The both of us are going to attend Renaissance. But I (April) am going to transfer to Cass Tech my second semester.

When you guys get near the end of the (computer) screen, why don't you hit the return key. Also when you make a (typing) mistake just type over it.

Well, thank you for the corrections.

Why are you going to transfer to Cass, April???? That is a Pretty name!!! Do you live near there?

Yes. Also the reason why I'm transferring to Cass is because they give you a lot more choices for extra curricular activities. Melodi does not want me to transfer.... The reason I (Melodi) don't want her to transfer is because, number one I'll be far from one of my best friends and I think she'll have a harder time getting to know people in such a big school.

Well, she has to do what she thinks is best. Maybe she will like Renaissance when she gets there and she may not want to leave. However, if she doesn't leave, then you both can make new friends and share them and have a bigger, more diverse group of friends.

True so true. I try to tell Melodi we will still be friends if I go to Cass. What high school did you attend??

I went to Grosse Pointe South High School. I swam on the swim team and wrote for the school paper. I loved high school. However, the first part was a big adjustment.

Well, it's going to be a big adjustment for us also because our school is very small and just about everyone knows everyone else.

What do you guys like to do on the weekends? I heard that you had a half day of school yesterday. Did you do anything fun??

I (April) had company. We just hung out at my house. And on weekends O usually go to the malls with my friends. I(Melodi) went shopping with my Mom.

Where do you like to go shopping?

With my Mom I like to go to Wonderland. But with my friends I like to go to Fairlane. - Melodi

Why the difference?

Because there are cute guys at Fairlane and I can flirt if my Mom's there

I heard that you had a play at your school this morning.

April - Yes, we did. I had one of the lead roles in the play. The name of the play was "Sound of Music." Melodi also had a great role in the play.

Are you both good singers?

Melodi -April can sing very well, but I am no Whitney Houston.
April - Neither am I. April says she can't sing, but I think that she can just fine!!!!!

Conversation #2 (Steve=Preservice teacher; Megan=Age 13)

11 CONNECT 1200

13 Hi Steve!

15 Hi. Is this Megan?

17 Yes. Candice might join us again today. Sorry about the spelling.

19. It's all right. One thing I was told after the last time we talked

20 is that it is best to hit the return key three times when you

21 finish a message. This makes it easier for the other person

22 to read the printout when you are finished. OK?

25 O.K. Steve.

28 Great. So, how is Wuthering Heights coming?

31 I haven't started it yet. I haven't had time to go to the library.

32 Little Women is very good though and I just finished a mystery

33 That was very good.

35 Good. Do you know which came first. Wuthering Heights or Little Women?

38 Little Women??

41 Better check. I know that Alcott was very inspired by reading

42 Jane Eyre which was written by Emily Bronte's sister, Charlotte.

43 I was just guessing. I guess that I guessed wrong.

Guessing is a very important skill to develop. People do it all of the time. There is something I was going to say, and now I've forgotten what it was. Oh, Little Women, in case you didn't know, is very autobiographical. Can you guess who Louisa May Alcott is?

Jo?

Why would you guess that?

She is the writer of the family.

Good guess. How far are you in the book?

Well, the girls have gone on the picnic with Laurie. And I think that Laurie's tutor likes Meg.

Why do you think that?

Because of the way that their conversations and glances are written.

Good. What do you think will happen?

Well, I saw the movie a looooooooong time ago and I think I remember her marrying him eventually. I also remember Beth dying.

You'd be surprised how often a movie will change parts of a book. What was the mystery you read?

Conversation #3 (Miller=Preservice Teacher
Ewayne and Aswad=Age 12)

Teacher: My name is Mr. Miller and I've got a screen of the United States in front of you . Do you see that?

Student: Yes.

Teacher: Okay, very good.Well what I'm going to be doing today is that I'm come up with a quiz game for us to play.

Student: Okay.

Teacher: What I'm going to be doing is asking you some questions and giving you some clues about cities in the United States and we will see how many of them you'll guess with my clues okay.

Student: Uh huh.

Teacher: Okay I see you with your hand up. Is that you?

Student: Yes. Let me give the phone to my friend?

Student: Hello

Teacher: Hello, this is Mr. Miller. Who is this?

Student: Ewayne.

Teacher: How is that spelled?

Student: E-W-A-Y-N-E .

Teacher: Okay, Ewayne. How are you doing today?

Student: Fine.

Teacher: What grade are you in?

Student: Seventh.

Teacher: Seventh . What I was telling Aswad was that I have a quiz game about the United States . They're all cities that are on the map

up there . What I've got is some clues and I'm going to give you the clues and see how many of them you guys can get.

Student: Okay.

Teacher: Play for three or four minutes and then let Aswad play. Then we'll let him get a chance. He can't hear me can he?

Student: Aswad can you hear him? He said he can hear you.

Teacher: You guys can work together or individually. Why don't we start out with just I'll ask you a question about a city. i'll start by saying this city is located on the Potomac River. The Smithsonian Institution is here.

Student: Okay.

Teacher: Any ideas yet?

Student: No

Teacher: IT is the United States capital city.

Student: Capital city?

Teacher: Yes, capital of the United states.

Student: Washington.

Teacher: Yes, very good. Got it right . So that's how the game works.

Student: Okay.

Teacher: Now I ' m looking for another one here. This city is near an unusual lake . If you can take a guess now from that.

Student: Lake

Teacher: No. You're pretty close there. This is the capital of Utah.

Student: Salt Lake
Teacher: Salt Lake city, that's right. Going good there. This city is the largest city in Indiana. Are you a big sports fan?

Student: Yes.

Teacher: You know the Indianapolis Colts played last night. They lost though.

Student: Know it.

Teacher: Indianapolis is also the capital of Indiana. So it's not only the largest city it's also the capital.

Student: I've got an aunt who lives there.

Teacher: It's a nice area. Okay, here comes another question. This is the capital of a western state famous for potatoes.

Student: Can you repeat that?

Teacher: This city is the capital of a western state famous for potatoes.

Student: Phoenix

Teacher: No. It's a western city but, it's not Phoenix. All right this city is near the Snake river.

Student: The snake River? Boise , I can't pronounce it.

Teacher: Yeah. It's pronounced "Boise". It doesn't look like it but it is. I had another clue that said if it had a sister city it would be "girlse." Anyhow Boise is in Idaho and Idaho is famous for potatoes. The potatoes we eat are grown in Idaho right around that area. So that's good so far. Okay let's try another one and then we'll let Aswad take the phone. This city is the capital of North Carolina.

Student: Here.

Teacher: Yeah. Do you know how to pronounce that?

Student: No.
Teacher: That's Raleigh
Student: Raleigh
Teacher: That's right!

Conversation #4 (Paul=Preservice Teacher; Jamal=Age 13)

Teacher: I'm going to load up another map in a few seconds, Jamal. Okay we're going to go to Europe.

Student: Wow I've been to Europe.

Teacher: You've been to Europe?

Student: I didn't go to a lot of countries but I flew there to Amsterdam and then up to Denmark and Copenhagen. The 1996 World Children festival of Theater.

Teacher: I'm sorry but do you see the data transfer box?

Student: Yeah.

Teacher: Okay. So you went to the World what?

Student: The World Festival of Children's Theater.

Teacher: That's great I went to Amsterdam once. That's a fun city. Do you know anything about art?

Student: A little bit.

Teacher: I went to the Vincent VanGogh Museum.It was really impressive. It was great. So we're going to talk about Europe? Okay first of all you've been to Denmark.

Student: Yeah.

Teacher: Hold up I have to. Okay do you see my hand(on monitor)?

Student: Yeah.

Teacher: Okay there's Denmark. Right on! So now you're in Compenhagen. That is the capital. Good.

Student: It's right there.

Teacher: On the island?

Student: Yeah, I think it's the island. It's over here somewhere though.

Teacher: Excellent.

Student: We were talking about taking a boat up to Sweden, but then we couldn't do that because I lost my passport and we found out that my dad was using it for a bookmark.

Teacher: So you didn't have to go to the embassy then.

Student: Yeah, we didn't get to go to Sweden cause we didn't find it until a couple of days before we left.

Teacher: That's funny. So now you see Denmark.

Student: Yeah.

Teacher: Let's talk about another nation. It's an island nation ruled by a Catholic government. Can you get it from that hint?

Student: You said island?

Teacher: Ireland you said?

Student: You said Ireland?

Teacher: I thought that's what you said. Its colors are green, orange, and white.

Student: I know that one. I'm very good with flags. Sometimes I get stuck from time to time.

Teacher: And its capital is Dublin.

Student: Ireland.

Teacher: Good job! It is Ireland. I have a question for you. You see in Ireland the big line right here.

Student: Yes.

Teacher: What can you tell me about that?

Student: Not much.

Teacher: Okay, Northern Ireland which is right here is ruled by the United Kingdom. So this is still apart of this.

Student: I see.

Teacher: Yes, excellent! Good job, you recognize Ireland. Okay next here you go. This country is the country from which Christopher Columbus sailed to America.

Student: That would be Spain.

Teacher: Good job what else can you tell me about Spain?

Student: It's a so, so country. They don't have as much violence in Spain, such that I know of anyway.

Teacher: When was the violence?

Student: I was just thinking about that. I lost it.

Teacher: Okay also do you know where the 1992 Olympics were?

Student: Barcelona, Spain.

Teacher: Good job! Right over here. Next, this country is famous for its pastry and wine and is home of the Eiffel Tower.

Student: Paris, France.

Teacher: Good job! You even knew the city. What else do you know about the city of Paris?

Student: It is the city of life.

Teacher: Good.

Student: I speak a little French I took French classes in the fourth grade, but I'm a little rusty now.

Teacher: Wow the fourth grade. Ready for the next one?

Student: Yes.

Teacher: Okay, this country was split for almost fifty years into eastern and western block countries.

Student: Germany.

Teacher: Good job. Do you know the capital?

Student: Yes.

Teacher: Right over here.

Student: You tell me I know it but.

Teacher: Berlin.

Student: And that's where they tore down the Berlin wall to split and make it one country.

Teacher: That's right. Good job. Do you know where the capital of west Germany is by any chance. I'll give you a hint.

Student: I didn't learn that one.

Teacher: It was called Bonn. That's okay cause that's old history and you probably wouldn't learn about that. Okay here's the next one. I am famous for my pasta and I'm shaped like a boot.

Student: Italy.

Teacher: That was a tough one wasn't it. Can you tell me what the capital of Italy is?

Student: I hate when this happens. I know I know it. Venice.

Teacher: No, Venice is just a big tourist attraction. Good guess though.

Student: Okay. I don't know.